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BIOL 408.01: Advanced Fisheries

Andrew Sheldon

University of Montana - Missoula

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Instructor: Andrew Sheldon, HS 203A

Office Hours: T,Th 9:30-12:00, W 9:00-12:00

Introduction:

This course will cover management issues and techniques, basic quantitative methods for analysis of fish populations and interpretation of case studies. Problem sets and preparation of a management plan are important components of the course.

Text and Readings:

1. 1. Kohler,C.C., and W.A. Hubert (eds.). 1999. *Inland Fisheries Management in North America*. American Fisheries Society.
2. 2. Readings, to be determined and issued as a separate list, to illustrate 3-4 case studies. Readings will be available on reserve as hard copies and as e-res (password: adfish).

Grading:

Quizzes	10%
Midterm I	15%
Midterm II	20%
Problems, Assignments	20%
Management Plan and Presentation	35%

Management Plans

These papers and presentations are intended to model a job you might be called upon to do in your first years as an agency biologist. In other words they should involve a Montana locality of limited extent and a definable fishery problem. Hence, "A national plan for the pallid sturgeon", "Effects of hatchery supplementation on anadromous fishes" or "Whirling disease in Montana" are not OK but "Brook trout in Rattlesnake Creek", "Catch and release regulations for redbreast shiners in Lake X" or "Reclamation of Trout Lake to produce a perch fishery" would be.

Each report should include the components described in K&H Chapter 2 and essential background such as habitat characteristics, land ownership, water allocations, stocking history, regulations.....It should include a budget and timetable for your proposed management option and, preferably, for one or two alternatives.

Information and ideas relevant to your projects can be found in K&H Chapters 18-24. Other info will be available in agency reports. Try not to make a huge nuisance of yourself but agency biologists, the Rock Creek Alliance, Montana Power Co., etc. will have some of the things you need. I realize that some of the information you really need

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will not be available , so describe how you will obtain it, e.g., electrofishing X sections, creel census, public meetings in Two Dot.... A visit to your lake, stream or culverts would be extremely useful.

Your presentation should be of professional quality so think about photos and other visuals as you go along. Keep in touch as you work on this. Note that your peers will have input when you present your plan in the last few weeks of class.

You **must** turn in a title and one paragraph description of your project by **5 March** and an outline by **4 April**.

POLICY ISSUES

The following boilerplate, to which I subscribe, is DBS policy. **University policies on drops, adds or changes of grading option will be strictly enforced in this course. These policies are described on p. 19-20 of the 2002-2003 catalog. Students should specifically note that after the 30th day of the semester, such changes are NOT automatically approved. They may be requested by petition, but the petition MUST be accompanied by documentation of extenuating circumstances. Requests to drop a course or change the grade basis to benefit a student's grade point average will not be approved.**

ORIGINALITY OF WORK:

Students may cooperate and discuss problem sets and other exercises. However, all written answers, calculations and graphs to be handed in must be your own.

Take home exams are not to be discussed with others and all submitted material must be your own work.

Management proposals present some difficulties. Agency reports and other gray literature plus personal communications are likely to be important source materials. If you use tables etc., please provide citations or other attribution for your information. Written sections should be in your own words. More generally, a management plan which is merely a paraphrase of other reports will not receive a high grade. Try to be as original as possible in your review, options and favored plan.

The Bottom Line: Do everything as professionally as possible. Imagine that the instructor is paying you and your work is to be seen by the public , the media and other professionals.

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There may be some slippage here to allow for outside speakers and any timing errors on my part. The number of days allocated to presentations at the end of the term will depend on final enrollment.

January	30	Introduction	K&H, Chap.1,2,5.Exercise on p.43 is due Feb. 6.
February	1	Discussion—esp.Chap. 2	K&H, Chap 3, 6:127-134.
	6	Numbers and sampling	K&H, Chap 6:134-140.
	8	8 Mark-recapture	
		(Last day to add---DBS regulation)	
	13	Catch-effort statistics and removal	K&H, Chap. 6: 140-150.
	15	Survivorship, age structure	
	20	20 Partitioning mortality	
	22	22 Combining rates	K&H, Chap. 6: 151-163.
		Management Plan Proposals Due	
	27	27 Production and yield	
March	1	Aftermath	K&H, Chap.7
		Midterm I (take home) Due	
	6	Discussion	K&H, 8,(4)
	11	11 Last Day to Drop	
	13	Discussion	K&H, 17
	15	15 Discussion or?	
	20,22	Spring Break	
	27	27 Begin case studies---outside readings, K&H chapters, outside speakers to be announced.	
	Case studies continue.	
April	5	Midterm II (take home) Due	

.....Case studies continue

Presentation of Management Plans ~ 26 April-10 May

May 17(Friday), Final Exam , 10:10—12:10

NO EARLY FINALS WILL BE GIVEN!

Management Plans Due!